

## Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

### *Forest Management and Productivity*

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

### *Management Concerns*

**PLANT COMPETITION** - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

**POTENTIAL PRODUCTIVITY** - This is discussed under the ordination class symbol.

**COMMON TREES** - Trees that generally occur on the soil are listed regardless of economic importance.

**SITE INDEX AND PRODUCTIVITY CLASS** - These are discussed under ordination class symbol.

**TREES TO PLANT** - Trees that are suitable for commercial wood production and that are adapted to the soil.

**HAND PLANTING** – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

**MECHANICAL PLANTING** – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

**USE OF HARVEST EQUIPMENT** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

**MECHANICAL SITE PREPARATION (SURFACE)** – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

**ROADS (NATURAL SURFACE)** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

**EROSION (ROAD/TRAIL)** – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

**EROSION (OFF-ROAD/OFF-TRAIL)** – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

**SOIL RUTTING** – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

**LOG LANDINGS** – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

**SEEDLING SURVIVAL** – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

*This subsection includes:*

- **(a) Forest Management (one or two tables)**

Butler County and Part of Ripley County, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
1:				
Adler-----	American sycamore---	115	186	American sycamore,
	eastern cottonwood--	120	186	eastern
	green ash-----	95	57	cottonwood, green
	sweetgum-----	100	143	ash, sweetgum
	water oak-----	100	100	
	willow oak-----	100	100	
2:				
Amagon-----	cherrybark oak-----	90	114	cherrybark oak,
	eastern cottonwood--	100	129	eastern
	green ash-----	80	57	cottonwood,
	Nuttall oak-----	100	143	Nuttall oak,
	water oak-----	100	100	Shumard's oak,
	willow oak-----	100	100	water oak, willow oak
3B:				
Elk-----	American sycamore---	---	0	black walnut,
	black walnut-----	---	0	cherrybark oak,
	cherrybark oak-----	95	129	eastern white
	common hackberry----	---	0	pine, loblolly
	pin oak-----	96	86	pine, northern red
	red maple-----	---	0	oak, shortleaf
	sweetgum-----	98	129	pine, tuliptree,
	tuliptree-----	94	100	white ash, white oak

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
4D: Bardley-----	black oak----- post oak----- white oak-----	54 45 42	43 29 29	black oak, eastern redcedar, shortleaf pine, white oak
5B: Bosket-----	cherrybark oak----- eastern cottonwood-- green ash----- sweetgum----- water oak----- willow oak-----	90 100 80 90 90 90	114 129 57 100 86 86	cherrybark oak, eastern cottonwood, shortleaf pine, sweetgum
5C: Bosket-----	cherrybark oak----- eastern cottonwood-- green ash----- sweetgum----- water oak----- willow oak-----	90 100 80 90 90 90	114 129 57 100 86 86	cherrybark oak, eastern cottonwood, shortleaf pine, sweetgum
6C2: Bosket-----	cherrybark oak----- eastern cottonwood-- green ash----- sweetgum----- water oak----- willow oak-----	90 100 80 90 90 90	114 129 57 100 86 86	cherrybark oak, eastern cottonwood, shortleaf pine, sweetgum

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
7: Calhoun-----	loblolly pine-----	---	0	green ash, loblolly
	slash pine-----	90	157	pine, Nuttall oak,
	sweetgum-----	---	0	slash pine, water
	water oak-----	90	86	oak
8B: Captina-----	black oak-----	60	43	black locust, black
	blackjack oak-----	---	0	oak, shortleaf
	post oak-----	---	0	pine
8B2: Captina-----	black oak-----	60	43	black locust, black
	blackjack oak-----	---	0	oak, shortleaf
	post oak-----	---	0	pine
8C: Captina-----	black oak-----	60	43	black locust, black
	blackjack oak-----	---	0	oak, shortleaf
	post oak-----	---	0	pine
8C2: Captina-----	black oak-----	60	43	black oak,
	blackjack oak-----	---	0	shortleaf pine
	post oak-----	---	0	
9C: Clarksville-----	black oak-----	61	43	shortleaf pine,
	northern red oak----	61	43	sweetgum,
	shortleaf pine-----	61	86	tuliptree, white
	white oak-----	58	43	oak

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
9D:				
Clarksville-----	black oak-----	61	43	shortleaf pine,
	northern red oak----	61	43	sweetgum,
	shortleaf pine-----	61	86	tuliptree, white
	white oak-----	58	43	oak
9F:				
Clarksville-----	black oak-----	61	43	shortleaf pine,
	northern red oak----	61	43	sweetgum,
	shortleaf pine-----	61	86	tuliptree, white
	white oak-----	58	43	oak
10D:				
Clarksville-----	black oak-----	61	43	shortleaf pine,
	northern red oak----	61	43	white oak
	shortleaf pine-----	61	86	
	white oak-----	58	43	
10F:				
Clarksville-----	black oak-----	61	43	shortleaf pine,
	northern red oak----	61	43	white oak
	shortleaf pine-----	61	86	
	white oak-----	58	43	
11:				
Crowley-----	loblolly pine-----	83	114	loblolly pine,
	shortleaf pine-----	---	0	shortleaf pine

Butler County and Part of Ripley County, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
12C: Doniphan-----	black oak-----	63	43	black oak,
	northern red oak----	61	43	shortleaf pine,
	shortleaf pine-----	63	100	sweetgum,
	white oak-----	59	43	tuliptree, white oak
12D: Doniphan-----	black oak-----	63	43	black oak,
	northern red oak----	61	43	shortleaf pine,
	shortleaf pine-----	63	100	sweetgum,
	white oak-----	59	43	tuliptree, white oak
12F: Doniphan-----	black oak-----	63	43	black oak,
	northern red oak----	61	43	shortleaf pine,
	shortleaf pine-----	63	100	sweetgum,
	white oak-----	59	43	tuliptree, white oak
13D: Doniphan-----	black oak-----	63	43	black oak,
	northern red oak----	61	43	shortleaf pine,
	shortleaf pine-----	63	100	sweetgum,
	white oak-----	59	43	tuliptree, white oak



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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
14B: Dubbs-----	cherrybark oak-----	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
	eastern cottonwood--	100	129	
	green ash-----	80	57	
	Nuttall oak-----	95	0	
	Shumard's oak-----	100	72	
	sweetgum-----	95	114	
	water oak-----	90	86	
	willow oak-----	95	86	
15: Foley-----	cherrybark oak-----	80	86	cherrybark oak, sweetgum, water oak
	sweetgum-----	80	86	
	water oak-----	80	72	
16D: Gasconade-----	blackjack oak-----	---	0	---
	chinkapin oak-----	41	29	
	eastern redcedar----	27	29	
	post oak-----	---	0	
Rock outcrop-----	---	---	---	---
16F: Gasconade-----	blackjack oak-----	---	0	---
	chinkapin oak-----	41	29	
	eastern redcedar----	27	29	
	post oak-----	---	0	
Rock outcrop-----	---	---	---	---

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
17C: Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
18B: Hartville-----	white oak-----	55	43	eastern cottonwood, pin oak, tuliptree, white oak
19: Hontas-----	American sycamore---	75	72	black walnut, eastern cottonwood, shortleaf pine, Shumard's oak, water oak
	black walnut-----	---	0	
	eastern cottonwood--	80	86	
	shortleaf pine-----	80	129	
	Shumard's oak-----	80	57	
	sweetgum-----	80	86	
20: Houlka-----	American sycamore---	100	129	American sycamore, cherrybark oak, eastern cottonwood, green ash, Nuttall oak, sweetgum
	cherrybark oak-----	105	172	
	eastern cottonwood--	105	143	
	green ash-----	85	57	
	Nuttall oak-----	105	0	
	Shumard's oak-----	105	72	
	sweetgum-----	105	157	

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
21: Kobel-----	American sycamore---	---	0	American sycamore,
	cherrybark oak-----	85	100	cherrybark oak,
	eastern cottonwood--	90	100	eastern
	green ash-----	100	57	cottonwood, water
	pecan-----	---	0	oak
	sweetgum-----	90	100	
	water oak-----	90	86	
22: Lafe-----	post oak-----	45	29	eastern redcedar,
	water oak-----	45	29	post oak, water
				oak
23B: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree
23B2: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
23C: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree
23C2: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree
23D: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree
23D2: Loring-----	cherrybark oak-----	86	100	cherrybark oak,
	loblolly pine-----	85	114	loblolly pine,
	southern red oak----	74	57	shortleaf pine,
	sweetgum-----	90	100	southern red oak,
	water oak-----	82	72	tuliptree

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
24A: Midco-----	American sycamore---	---	0	shortleaf pine, white oak
	black oak-----	60	43	
	shortleaf pine-----	---	0	
	white oak-----	55	43	
25: Nolin-----	American sycamore---	---	0	black walnut, cherrybark oak, eastern cottonwood, eastern white pine, sweetgum, tuliptree, white ash
	black walnut-----	---	0	
	cherrybark oak-----	97	143	
	eastern cottonwood--	---	0	
	river birch-----	---	0	
	sweetgum-----	92	114	
	tuliptree-----	107	114	
26B: Peridge-----	black walnut-----	---	0	black walnut, northern red oak, shortleaf pine, white oak
	eastern redcedar----	50	57	
	northern red oak----	70	57	
	shortleaf pine-----	70	114	
	white oak-----	---	0	
26C: Peridge-----	black walnut-----	---	0	black walnut, northern red oak, shortleaf pine, white oak
	eastern redcedar----	50	57	
	northern red oak----	70	57	
	shortleaf pine-----	70	114	
	white oak-----	---	0	

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
26C2: Peridge-----	black walnut-----	---	0	black walnut,
	eastern redcedar----	50	57	northern red oak,
	northern red oak----	70	57	shortleaf pine,
	shortleaf pine-----	70	114	white oak
	white oak-----	---	0	
27: Secesh-----	American sycamore----	---	0	American sycamore,
	black oak-----	---	0	black walnut,
	black walnut-----	---	0	shortleaf pine
	shortleaf pine-----	---	0	
	white oak-----	60	43	
28: Tuckerman-----	cherrybark oak-----	100	143	cherrybark oak,
	eastern cottonwood--	95	114	eastern
	green ash-----	100	86	cottonwood,
	Nuttall oak-----	95	129	Nuttall oak,
	sweetgum-----	---	0	sweetgum, water
	water oak-----	95	86	oak, willow oak
	willow oak-----	95	86	
29B: Tuckerman-----	cherrybark oak-----	100	143	cherrybark oak,
	eastern cottonwood--	95	114	eastern
	green ash-----	100	86	cottonwood,
	Nuttall oak-----	95	129	Nuttall oak,
	sweetgum-----	---	0	sweetgum, water
	water oak-----	95	86	oak, willow oak
	willow oak-----	95	86	

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Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
29B: (cont)				
Bosket-----	cherrybark oak-----	90	114	cherrybark oak,
	eastern cottonwood--	100	129	eastern
	green ash-----	80	57	cottonwood,
	sweetgum-----	90	100	shortleaf pine,
	water oak-----	90	86	sweetgum
	willow oak-----	90	86	
30:				
Wideman-----	American sycamore---	80	72	eastern cottonwood,
	eastern cottonwood--	90	100	loblolly pine,
	sweetgum-----	80	86	shortleaf pine
31B:				
Wilderness-----	black oak-----	63	43	black oak,
	northern red oak----	64	43	shortleaf pine,
	white oak-----	56	43	white oak
32:				
Pits-----	---	---	---	---
33:				
Calhoun-----	loblolly pine-----	90	129	green ash, loblolly
	shortleaf pine-----	84	143	pine, water oak
	sweetgum-----	---	0	
W:				
Water-----	---	---	---	---